DEPARTMENT OF THE ARMY
NASHVILLE DISTRICT, CORPS OF ENGINEERS
3701 BELL ROAD
NASHVILLE, TENNESSEE 37214

April 1, 2011

REPLY TO:

Regulatory Branch (1145b1) Graham/369-7507

SUBJECT: File No. 2010-00850; Proposed roadway crossing within unnamed tributary to Mile 1.0R, Sims Branch, opposite Cumberland River Mile 194.4L, Davidson County, Tennessee

Mr. Tarun N. Surti
899 South Curtiswood Lane
Nashville, Tennessee 37204

Dear Mr. Surti:

This is in regard to your request for a Department of the Army (DA) permit for the subject work. The subject location is within the Mill Creek drainage basin, the known habitat for the federally endangered Nashville crayfish (*Orconectes shoupi*). Your proposal has been coordinated with the US Fish and Wildlife Service (FWS). Please refer to File No. 2010-00850 in future correspondence with us related to this project.

Based upon the information provided, to the extent the US Army Corps of Engineers has jurisdiction over the discharge of dredged or fill material associated with the work, we have determined that the work has been previously permitted under authority of DA Nationwide Permit (NWP) #14, which became effective March 19, 2007. A copy of the FWS response letter is attached. Please advise our office at least 24 hours before you begin the construction.

It should be noted that if you fail to comply with any of the conditions, this authorization may be modified, suspended, or revoked and an individual permit may be required pursuant to 33 CFR 330.5(d).

This verification will be valid until March 18, 2012, unless the NWP authorization is modified, suspended, or revoked. If you commence or are under contract to commence this activity before that date, you will have twelve months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this NWP.

The State of Tennessee denied without prejudice water quality certification for the nationwide permits. In order for this NWP to be valid, you must obtain a water quality certification from the state. You must provide our office with a copy of the required certification or waiver of certification from the state prior to proceeding with the work. You must also comply with all conditions of the state certification.

You are also responsible for obtaining any other federal, state, and/or local permits, approvals, or authorizations.

If changes in the location or plans of the work are necessary, revised plans should be submitted promptly to this office. No deviation should be made in the approved plans without first obtaining approval from this office.

If you have any questions, please contact me at the above address or telephone (615) 369-7507.

Sincerely,

Richard D. Graham
Regulatory Specialist
Operations Division

Enclosures

Copies Furnished:

Mr. Jim Widlak, USFWS
446 Neal Street
Cookeville, Tennessee 38501

Mr. Benjamin Brown
TDEC (WPC-7th Floor)
401 Church Street, L&C Annex
Nashville, Tennessee 37243

Mr. Jon F. Goff
PDR Engineers, Inc.
2000 Lindell Avenue
Nashville, Tennessee 37203-5509

United States Department of the Interior

FISH AND WILDLIFE SERVICE
446 Neal Street
Cookeville, TN 38501

March 29, 2011

Mr. Richard Graham
Regulatory Branch
U.S. Army Corps of Engineers
3701 Bell Road
Nashville, Tennessee 37214

Re: FWS #2011-CPA-0052 (Revised Biological Assessment)

Dear Mr. Graham:

Fish and Wildlife Service personnel have reviewed the March 4, 2011, revised biological assessment regarding the Nashville crayfish for the crossing of an unnamed tributary to Sims Branch in Davidson County, Tennessee.

The revised biological assessment is adequate and supports the conclusion of not likely to adversely affect, with which we concur. In view of this, we believe that the requirements of section 7 of the Endangered Species Act (Act) have been fulfilled. However, obligations under section 7 of the Act must be reconsidered if: (1) new information reveals that the proposed action may affect listed species in a manner or to an extent not previously considered, (2) the proposed action is subsequently modified to include activities which were not considered in this revised biological assessment, or (3) new species are listed or critical habitat designated that might be affected by the proposed action.

Your interest and initiative to protect endangered and threatened species is greatly appreciated. If you have questions or if we can be of further assistance, please contact Jim Widlak of my staff at 931/525-4972.

Sincerely,

Mary E. Jennings
Field Supervisor

MAR 3 1 2011

US Army Corps of Engineers.
Nashville District

Nationwide Permit Conditions

#2010-00850

The following General Conditions must be followed in order for any authorization by NWP to be valid:

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation. (b) Any safety lights and signals prescribed by the US Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the US. (c) The permittee understands and agrees that, if future operations by the US require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the US. No claim shall be made against the US on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the US that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is related to a shellfish harvesting activity authorized by NWP 4 and 48.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects from Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the preconstruction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the preconstruction course; condition, capacity, and location of open waters if it benefits the aquatic environment (e.g. stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the US during periods of low-flow or no-flow.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations and revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

15. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, US Forest Service, US Fish and Wildlife Service).

16. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

17. Endangered Species. (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. Non-federal permittees shall notify the District Engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or is located in the designated critical habitat and shall not begin work on the activity until notified by the District Engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that may affect Federally-listed species or designated critical habitat, the notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. As a result of formal or informal consultation with the FWS, the District Engineer may add species-specific regional endangered species conditions to the NWP.

(b) Authorization of an activity by a NWP does not authorize the ``take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with ``incidental take" provisions, etc.) from the USFWS or the NMFS, both lethal and non-lethal ``takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the USFWS and NMFS or their World Wide Webpages at http://www.fws.gov/ and http://www.noaa.gov/fisheries.htmlrespectively.

18. Historic Properties. No activity which may affect historic properties listed or eligible for listing, in the National Register of Historic Places is authorized, until the District Engineer has complied with the provisions of 33 CFR Part 325, Appendix C. The prospective permittee must notify the District Engineer if the authorized activity may affect any historic properties listed, determined to be eligible, or which the prospective permittee has reason to believe may be eligible for listing on the National Register of Historic Places, and shall not begin the activity until notified by the District Engineer that the requirements of the National Historic Preservation Act have been satisfied and that the activity is authorized. Information on the location and existence of historic resources can be obtained from the State Historic Preservation Office Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). For activities that may affect historic properties listed in, or eligible for listing in, the National Register of Historic Places, the notification must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Prospective permittees should be aware that section 110k of the NHPA (16 USC 470h–2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur.

19. Designated Critical Resource Waters. Critical resource waters including state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment. (a) Discharges of dredged or fill material into waters of the US are not authorized by NWP 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters. (b) For NWP 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

20. Mitigation. The activity must be constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the US to the maximum extent practicable at the project site (i.e. on site). Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

21. Water Quality. The activity must comply with case specific conditions added by the Corps or by the state, Indian Tribe, or USEPA in its section 401 Water Quality Certification. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

22. Coastal Zone Management. (Not applicable in Nashville District.)

23. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification.

24. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the US authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal water is constructed under NWP14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the US for the total project cannot exceed 1/3-acre.

25. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with NWP verification, the permittee may transfer the NWP verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the NWP verification must be attached to the letter, and the letter must contain the following statement: When the structures or work authorized by this NWP are still in existence at the time the property is transferred, the terms and conditions of this NWP, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below:

_____ _____

Transferee Date

26. Compliance Certification. Every permittee who has received a Nationwide permit verification from the Corps will submit a signed certification regarding the completed work and any required mitigation. The certification form is included with this verification.

27. Pre-Construction Notification. N/A as a permit condition for this verification letter. (For full text of this condition, refer to page 11194 of the *Federal Register*, Vol. 72, No. 47, Monday, March 12, 2007 at http://www.usace.army.mil/inet/functions/cw/cecwo/reg/.

28. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

Further Information:

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other Federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.

ATTENTION

YOU ARE REQUIRED TO SUBMIT THIS SIGNED CERTIFICATION REGARDING THE COMPLETED ACTIVITY AND ANY REQUIRED MITIGATION.

I hereby certify that the work authorized by Permit No. 200-00850 and any required mitigation was done in accordance with the Corps authorization, including any general or special conditions.

_____

Permittee Signature

Date_____

Submit this signed certification to the office checked below:

☒ U.S. Army Corps of Engineers
Regulatory Branch
3701 Bell Road
Nashville, TN 37214

☐ Eastern Regulatory Field Office
501 Adesa Boulevard, Suite B-250
Lenoir City, TN 37771

☐ Western Regulatory Field Office
2042 Beltline Road, Southwest
Building C, Suite 415
Decatur, AL 35601

Richard D. Graham
Regulatory Specialist

US Army Corps
of Engineers ®
Nashville District

Nationwide Permit

File No. 2010-00850

No. 14, Linear Transportation Projects

Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10 acre; or (2) there is a discharge in a special aquatic site, including wetlands. (Sections 10 and 404)

Note: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT *(33 CFR 325)*	OMB APPROVAL NO. 0710-0003 EXPIRES: 31 August 2012

Public reporting burden for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers, Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
2010-00850		10-06-10	10-15-10 RG

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (an agent is not required)
First - Tarun Middle - N Last - Surti Company – E-mail Address – tarunsurti@comcast.net	First - Jon Middle - Franklin Last - Goff Company – Planning, Design & Research Engineers, Inc. E-mail Address – JGOFF@PDRE.net
6. APPLICANT'S ADDRESS Address - 809 South Curtiswood Lane City – Nashville State – TN Zip – 37204 Country – Davidson	9. AGENT'S ADDRESS Address - 2000 Lindell Avenue City – Nashville State – TN Zip – 37203 Country – Davidson
7. APPLICANT'S PHONE NOs. W/AREA CODE a. Residence b. Business c. Fax 615-831-0811 615-281-9850 N/A	10. AGENT'S PHONE NOs. W/AREA CODE a. Residence b. Business c. Fax 615-308-2511 615-298-2085 615-269-4119

STATEMENT OF AUTHORIZATION

11. I hereby authorize, Jon F. Goff to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

APPLICANT'S SIGNATURE — DATE: Oct. 6th 2010

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)

608 McGavock Pike

13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable)
Unnamed Tributary to Sims Branch of Mill Creek	Address 608 McGavock Pike City - Nashville State – TN Zip - 37214
15. LOCATION OF PROJECT Latitude: °N 36 09' 20" Longitude: °W 86 40' 56"	

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)

State Tax Parcel ID 09511019000 Municipality Metro Davidson County, Tennessee

Section – Township – Range –

17. DIRECTIONS TO THE SITE

Approximately 600 L.F. northeast of the intersection of Elm Hill Pike and McGavock Pike. Parcel is located on the north side of McGavock Pike.

18. Nature of Activity (Description of project, include all features)

Installation of parking lot access crossing over wetland. Work consists of installation of two (2) concrete headwalls, 15" CMP culvert, fill for crossing and associated grading operations.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

Without Construction of the crossing, it is impossible to access the majority of the property due to a stream that is dividing the site.

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

Installation of the Culvert will be at the existing spring fed creek grade. This will require that the ramps be filled to 1' above the culvert. Estimated fill is approximately 120 C.Y.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
Soil/Stone Fill Material	Approximately 75 C.Y. Soil	Approximately 45 C.Y. Stone

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres 0.032 Acres

Or

Liner Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

Work to be performed during dry period of year. Crossing installed at smallest point of wetland. Culvert to be installed at existing stream elevation, minimizing excavation. A 20' buffer has been installed around the remainder of the wetland to prevent future damage.

24. Is Any Portion of the Work Already Complete? Yes ☐ No ☑ IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (If more than can be entered here, please attach a supplemental list)

Address – 2421 A Springview Drive

City – Nashville State – Tennessee Zip – 37214

26. List of Other Certifications or Approvals/Denials Received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED

* Would include but is not restricted to zoning, building, and flood plain permits

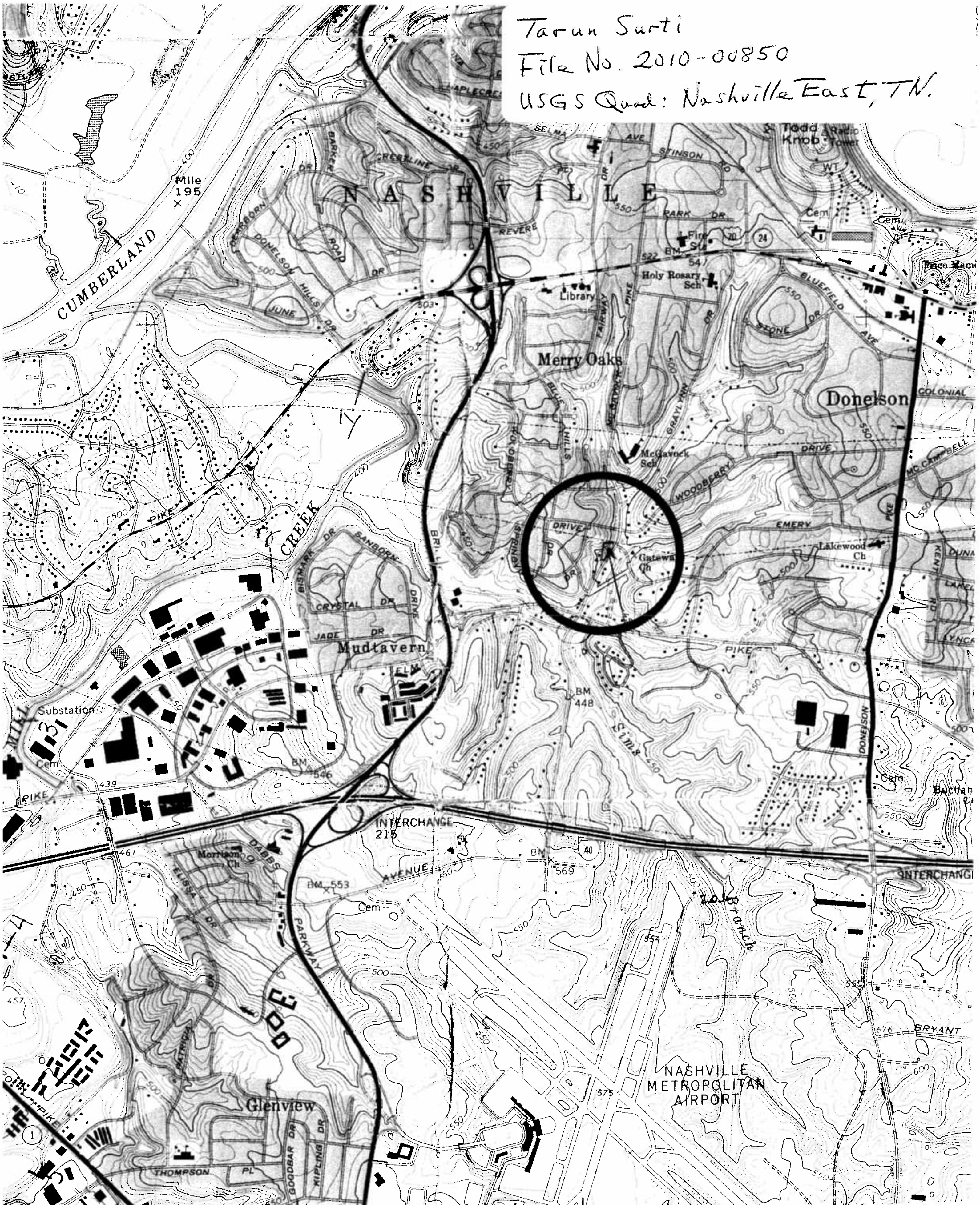
27. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT	DATE	SIGNATURE OF AGENT	DATE
	10/06/2010		10/6/10

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more then $10,000 or imprisoned not more than five years or both.

Tarun Surti
File No. 2010-00850
USGS Quad: Nashville East, TN.

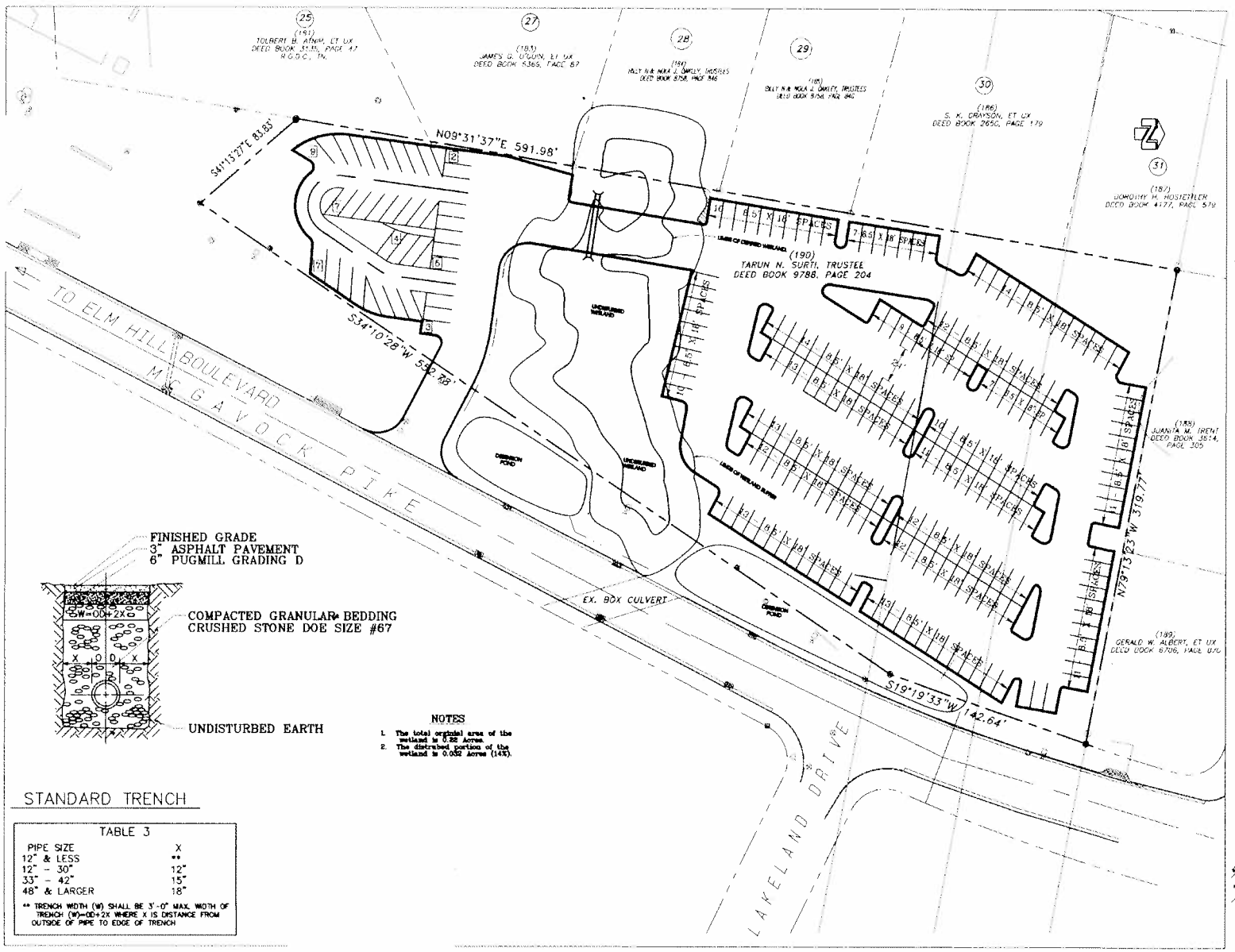


526 42'30" 527 (ANTIOCH) 3656 II SW 529 40'

UNA 3.6 MI.
MURFREESBORO 27 MI.

SCALE 1:24 000

1 MILE



STANDARD TRENCH

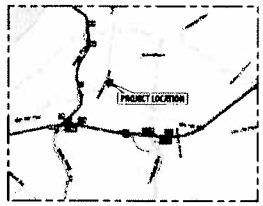
TABLE 3

PIPE SIZE	X
12" & LESS	**
12" – 30"	12"
33" – 42"	15"
48" & LARGER	18"

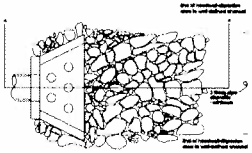
** TRENCH WIDTH (W) SHALL BE 3'-0" MAX. WIDTH OF TRENCH (W)=OD+2X WHERE X IS DISTANCE FROM OUTSIDE OF PIPE TO EDGE OF TRENCH

NOTES

1. The total original area of the wetland is 0.82 Acres.
2. The disturbed portion of the wetland is 0.052 Acres (14%).



GRAPHIC SCALE 1" = 30'
0 30 60 90



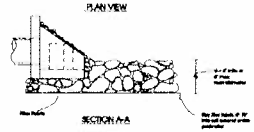


Table of Dimensions

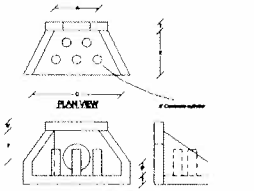
Pipe Size	A	D	E	F	T (min)
15"	2'-0"	6'-0"	3'-0"	1'-9"	6"
18"	2'-6"	6'-0"	3'-0"	1'-9"	6"
21"	2'-6"	6'-0"	3'-0"	1'-9"	6"
24"	4'-0"	6'-0"	4'-0"	2'-3"	6"

GENERAL NOTES

CONCRETE: 4,000 PSI AT 28 DAYS. REINFORCED WITH #4 BARS, 10" O.C. EW WITH CYLINDERS, WINGS AND TOE SLAB DOWELLED TO HEADWALL WITH #6 BARS.

3/4" CHAMFER ON ALL EXPOSED EDGES.

Pipe Diameter	Discharge (cfs)	Apron Length, L (feet)	Rip-Rap D 50 Min (inches)
12"	4.9	10	4
	9.99	12	6
18"	9.99	10	6
	20.13	14	9
	30.07	20	12
	39.90	26	16
24"	30.07	10	9
	39.90	16	9
	50.14	26	12
	60.29	30	16

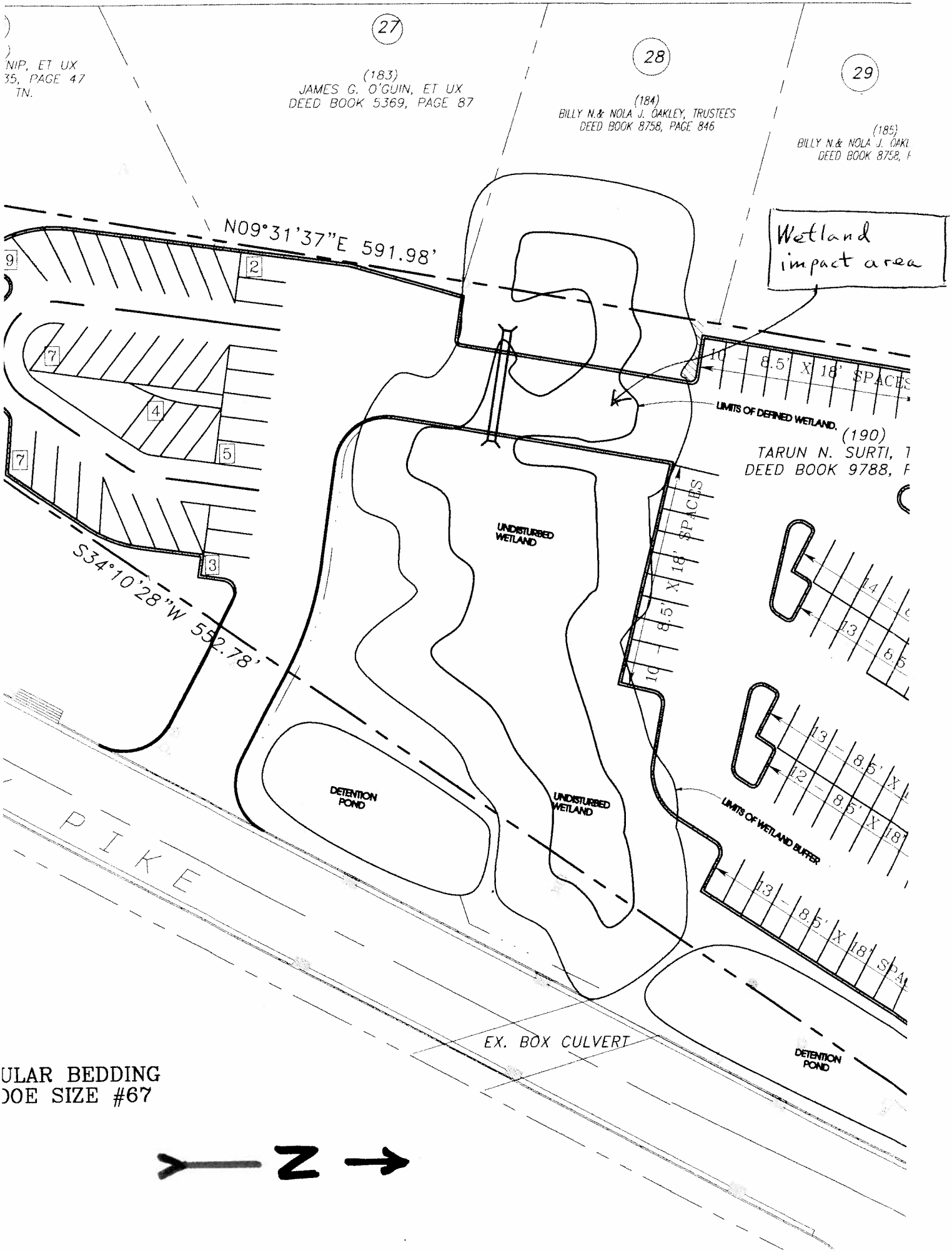


OUTLET PROTECTION & HEADWALL DETAILS - PESC-07

PLANNING DESIGN & RESEARCH, INC.
2000 LINDELL AVENUE
NASHVILLE, TENNESSEE 37203
(615) 298-2065

PARCEL ID: 095110190000
638 McGAVOCK PIKE
NASHVILLE, TN 37214

SHEET 2 OF 2



ULAR BEDDING
DOE SIZE #67

BIOLOGICAL ASSESSMENT

DESCRIPTION OF THE ACTION

This updated Biological Assessment addresses potential impacts to the Nashville crayfish (*Orconectes shoupi*), and has been prepared as part of a permit application for the construction of a culvert crossing. Mr. Tarun Surti proposes to develop a 3-acre tract at 608 McGavock Pike in Davidson County as a long-term parking facility (Figure 1). The proposed development necessitates crossing a spring-fed stream which enters an unnamed tributary to Sims Branch. This is within the Mill Creek drainage basin, the known habitat for the federally endangered Nashville crayfish. Although the crayfish has not been documented as occurring at the crossing location, it is assumed to be present due to the close proximity to Sims Branch.

Work would consist of installing a 15" x 30' CMP culvert with concrete headwalls and related fill, to create a vehicle access to the currently isolated portion of the tract. Using a trackhoe or similar equipment, the culvert would be installed by the open-cut method at the current elevation of the stream with a slope of 1%, then backfilled. Construction plans for the project are attached (Figure 2). The crossing would provide continuous streamflow and facilitate development of the tract. In addition to the culvert, approximately 0.03 acre of jurisdictional wetland would be filled for the crossing. Construction would be performed during mid to late summer months when the stream and adjacent wetland are typically dry. Work would also be scheduled when rain is not in the forecast. It is expected that the work should be completed within five days or less.

DESCRIPTION OF THE AFFECTED AREA

The location of the crossing is at Latitude 36.1556 and Longitude -86.6820, and is approximately 1,000 L.F. northeast of the intersection of Elm Hill Pike and McGavock Pike . The seasonally intermittent stream is fed by a wet weather spring originating from the base of the hill near the tract's western boundary, and meanders easterly toward McGavock Pike before entering the unnamed tributary to Sims Branch. It is shallow with a substrate comprised chiefly of clay, silt, and small gravel, has a maximum width of five feet, and is approximately 270 feet in length. The tributary which it enters flows in a southerly direction approximately 1,800 L.F. before entering Sims Branch. The crossing would be located near the headwaters of the stream approximately 30 feet downstream from base of the hill where the spring first appears. Riparian vegetation includes Chinese privet, dock, black willow, and cattails. In March 2007, S&ME, Inc. delineated a 0.22-acre wetland at this location, and this was verified by the Corps of Engineers on April 18, 2007. Because of its seasonal intermittence, there are periods during the summer when the stream channel lacks flow or pooled areas necessary to sustain the Nashville crayfish. Therefore, it is likely that it provides only marginal habitat for the species.

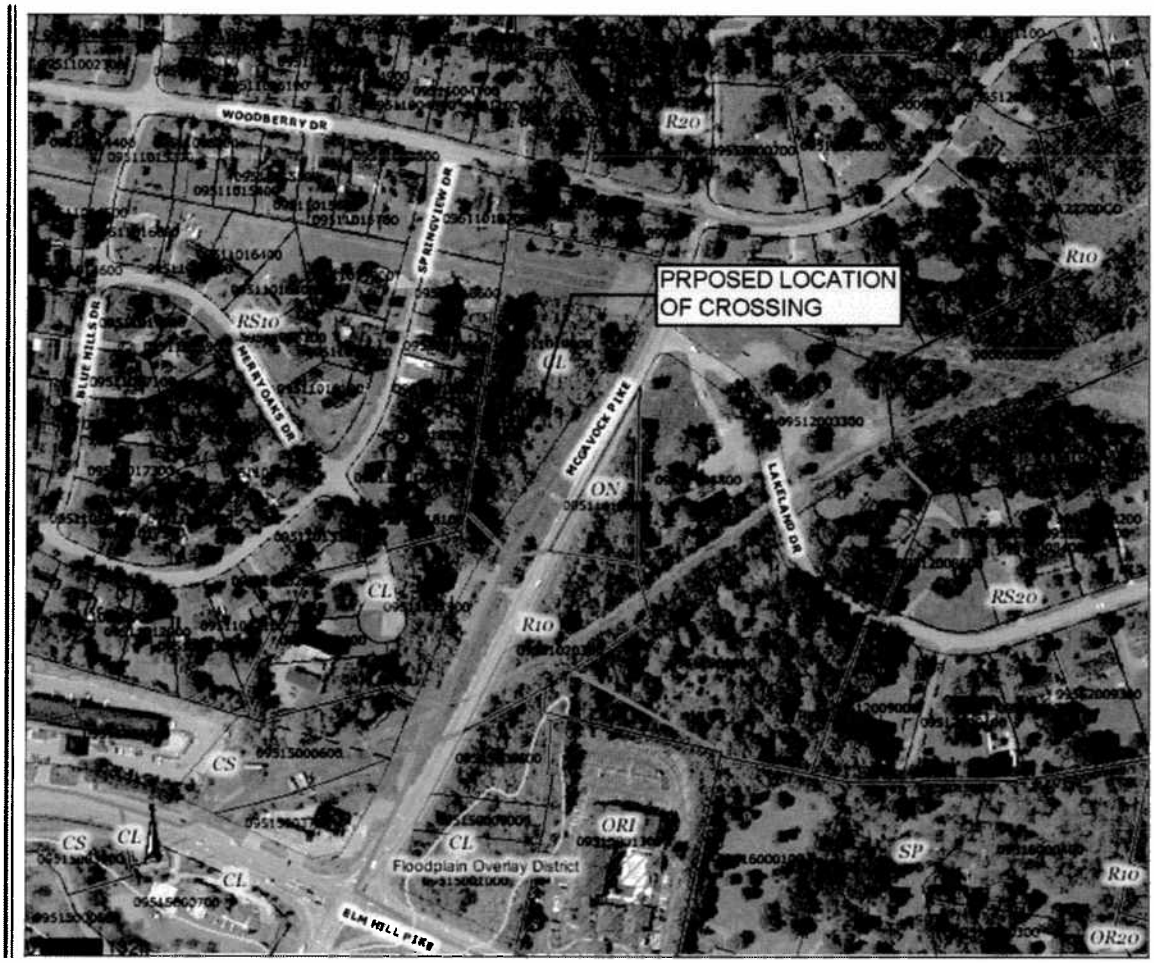


Figure 1 - Vicinity Map

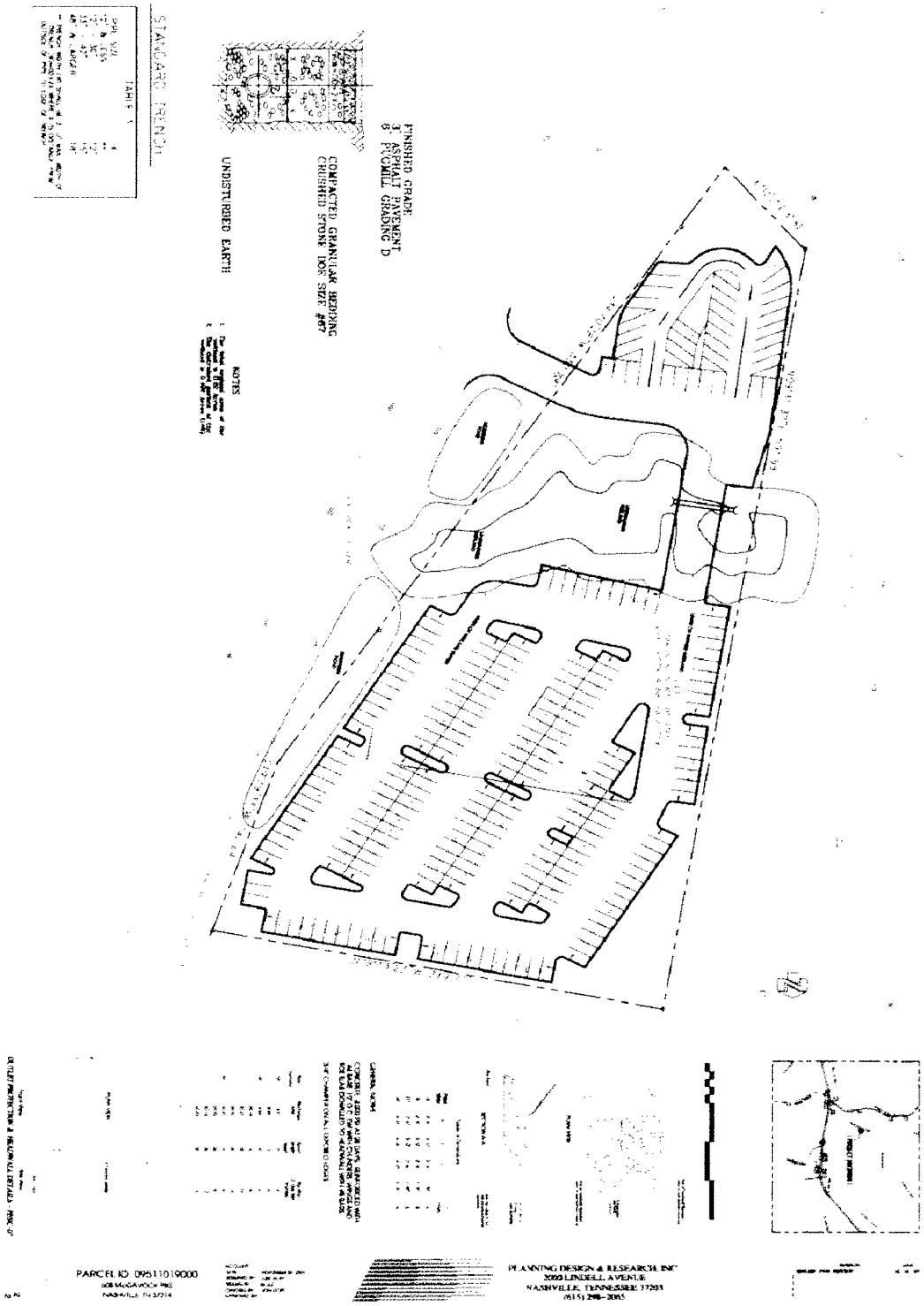
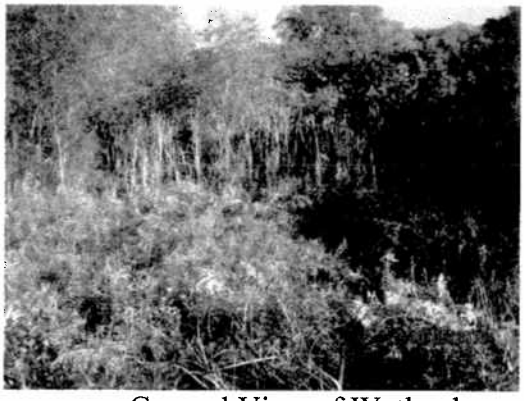


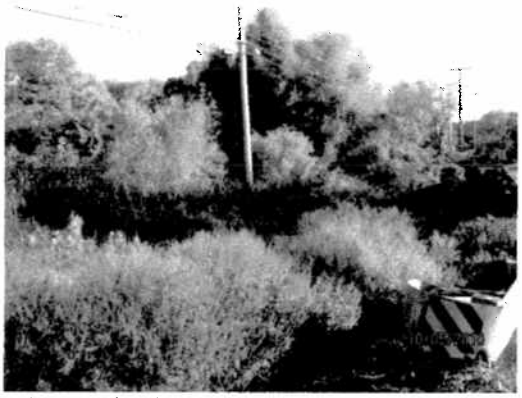
Figure 2 - Construction Plans

PHOTOGRAPHS OF SITE AND PROPOSED CROSSING

General View of Wetland



General View of Wetland



General View of Stream on Property

DESCRIPTION OF SPECIES

The Nashville crayfish was listed as Endangered by the United States Fish & Wildlife Service (USFWS) on October 27, 1986. This listing is primarily as a result of its limited distribution as it is currently only known to exist within the Mill Creek Watershed in Davidson and Williamson Counties, Tennessee. Cited threats to the species include poor agricultural and residential land use practices that have result in increased siltation and organic enrichment within the streams (ACOE 1981, USFWS 1989). The limited distribution of the species also makes it vulnerable to a single catastrophic event, such as a toxic chemical spill or other contamination (USFWS 1986). The preferred habitat for the Nashville crayfish has been documented to include areas with non-moving water, such as in calm shallow pools with limestone slabs and areas with moving water, such as riffles possessing sufficient slab rocks and cobbles to provide protection (Barrociere 1986 & Stark 1987). Data on the life-history of this organism is limited; however, it is documented that this species experiences late spring oviposition, probably after fall amplexus. Crayfish require non-turbid, well-oxygenated water and clean substrate (OJSFWS 2002); however, this species has been observed in freshly silted areas (Nature Serve Explorer 2007). A recent distribution study assessing historic records for the species in addition to documenting additional populations in the upper reaches of Mill Creek and numerous tributaries was conducted in 2004 and 2005 (Withers 2005). Data from this study documented the presence of the Nashville crayfish from 102 locations across the Mill Creek Watershed. These data were significant since they documented populations from an additional eight tributaries as well as several previously unknown locations along the main stem of Mill Creek. This most recent report also cited the primary threat to the species as siltation associated with poor land use practices.

ANALYSIS OF POTENTIAL AFFECTS TO THE SPECIES FROM THE PROPOSED ACTIONS

Direct Adverse Affects

Since all work for the culvert crossing would be performed when the stream is dry and no Nashville crayfish are present, the project is not likely to adversely affect the species. The species is known to inhabit the main stem of Mill Creek and its tributaries. Therefore, it is reasonable to assume that it could migrate up the tributary from Sims Branch to the crossing location if proper habitat conditions (i.e., flowing water/pooled areas and stream substrate) are present. The substrate at the crossing location is comprised chiefly of clay, silt, and small gravel, and would likely provide minimal cover for Nashville crayfish when a water source is present. When the stream is dry, however, habitat would be suboptimal and, therefore, any individual species would likely migrate downstream toward Sims Branch. In order to ensure that Nashville crayfish are not present and would not be adversely impacted by the proposed project, the following methodology would be implemented. At the beginning of the dry season when flow is gone and any pooled areas first become dry, the entire spring-fed stream, from its beginning to its confluence with the unnamed tributary (approximately 270 L.F.), would be surveyed by a qualified biologist licensed to collect and properly remove Nashville crayfish. If no crayfish individuals are found during the dry substrate survey, work on the crossing would commence at

the earliest starting date and be completed during dry conditions. In the unlikely event that individual crayfish are discovered during the dry conditions survey, the USFWS will be notified and, if deemed necessary, formal consultation will be initiated. If this were to occur, the applicant would anticipate hiring a biologist licensed to perform crayfish relocations to perform several sweeps of the project area before and during construction.

Indirect Adverse Affects

The proposed culvert crossing would not result in indirect impacts to downstream Nashville crayfish habitat, as the following construction methodology would be implemented. The project would be performed in the dry during the driest period of the year. Only the amount of wetland soils sufficient to perform the construction would be removed, then saved for use later during restoration. All rock fill used in construction would be washed to prevent contaminants from entering the stream. When completed, restoration of the stream channel substrate and adjacent wetland fringe would mimic preconstruction contours. This would be achieved by grading, where necessary, the excavated banks to resemble similar morphology to upstream and downstream reaches. The stabilization of these disturbed areas would include the installation of suitable stabilization matting and the establishment of vegetative cover. The previously removed wetland soils would be utilized in the restoration of the wetland fringe. Instream habitat would be restored by strategic placement of clean slab rock and cobbles, thus providing improved habitat for the species upon its return to the reach. By the time wet weather conditions return, the instream habitat would be reestablished and allow Nashville crayfish to repopulate the stream. To control potential runoff from the project, adequate erosion control measures to prevent sediment from washing off from exposed soil areas would be installed prior to the ground disturbing activities.

REFERENCES

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- Biggins, R.G. 1989. Recovery Plan for Nashville Crayfish (Orconectes shoupi), First Revision. U.S. Fish and Wildlife Service Southeast Region, Atlanta Georgia.
Nature Serve Explorer. 2007. Comprehensive Report Species - Orconectes shoupi. http://www.natureserve.org/explorer/servlet/NatureServe?searchName = Orconectes+shoupj (Accessed: October 15,2007)
- Stark, G.J. 1987. Microhabitat use by the crayfish community of the Mill Creek Basin. Masters Thesis, Tennessee Technological University, Cookeville, Tennessee. 44 pp.
- U.S. Fish and Wildlife Service. 1986. Endangered and Threatened Wildlife and Plants; Determination of Endangered Species Status for the Nashville Crayfish (Orconectes shoupi). Federal Register 5 l(187): 34410-34412.
- U.S. Fish and Wildlife Service, Division of Endangered Species. 2002. Nashville Crayfish (Orconectes shoupi). http://ecos.fws.~ov/docs/lifhe istoriesK0 1 s.htm (Accessed: October 15,2007) Withers, D. I. 2005. "Distribution Surveys for the Nashville Crayfish, Orconectes shoupi, an Endangered Crayfish in Tennessee." USFWS Agreement #40 18 1450 13